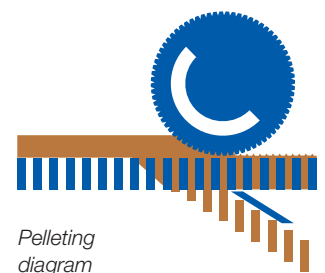


Process technology
for economic compacting
by means of pelleting



Pelleting



*Pelleting
diagram*

KAHL process technology for compacting and shaping

The Kahl policy for the compacting of powdery, lumpy, or pasty products is „to adapt the machine to the product“.

Process technology

- Machines
- Plants
- Turnkey factories

Pelleting with KAHL presses is an economic alternative to considerably more expensive processes.

Optimum design of each pelleting plant is achieved as a result of different product tests and analyses carried out at our pilot plant.

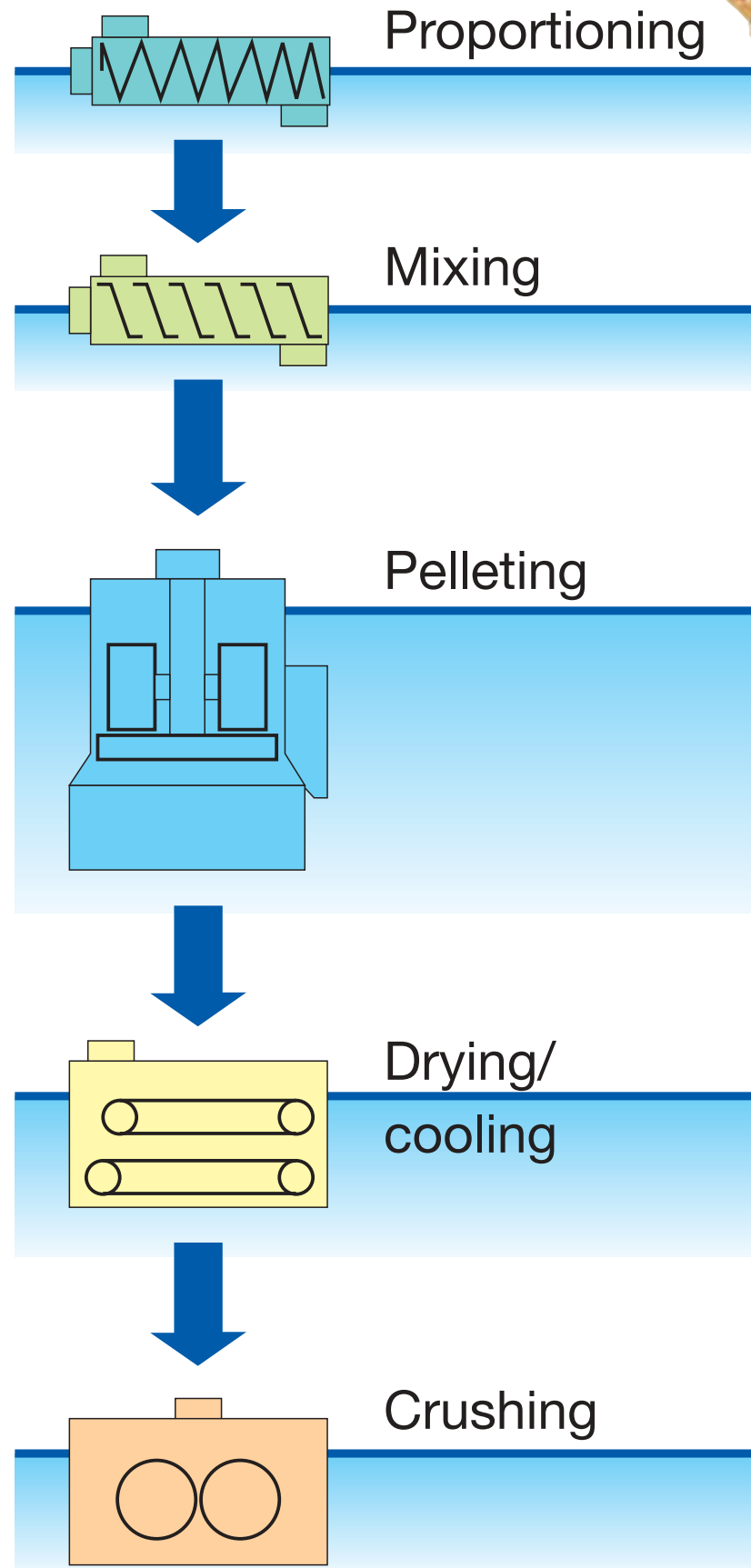
Due to the versatility of equipment of the KAHL pelleting plants, we are able to meet the special requirements of our customers.

For example the pelleting of:

- products with high slipping properties,
- products with a melting point < 40°C
- products which can only be processed with the addition of inert gas,
- pasty products with high slipping properties and a low melting point.

The main field of application of the process technology „pelleting“ in the industry:

- conditioning of raw materials,
- product shaping,
- blending with filling materials,
- conditioning of waste products,
- compacting for utilization, disposal, or recycling,
- production of finished products,
- processing of finished products.





▼ Conical pan grinder rollers for products having a low melting point.

▼ Press with hydraulic nut, positive roller drive, and die heating for plastic additives.

▼ Cooled press cases for thermosensitive products.

Our proportioning screws are available in various sizes and executions. They ensure a continuous feeding of product, e.g. into the continuous mixer.



▲ PC-control for a pelleting plant.



▲ Press 24-390 with overhead drive for pelleting pasty products



▲ Press 14 - 175 for small-scale production.

Most of the products are dried and/or cooled after pelleting. For this purpose, KAHL offers the following process technology for treating the product with utmost care – the belt drier and cooler in modular design.

For subsequent processing it is sometimes necessary to crush the pellets after drying/cooling in order to reduce the

particle size or to increase the specific surface. For this purpose the NEUHAUS NEOTEC chemical roll grinder WMC is



◀ *Proportioning screw.*

KAHL continuous mixers are used to obtain continuous mixing of bulk material with liquids. Several streams of bulk material, liquids, and steam can be added.



▲ *Continuous mixer.*



▲ *Batch mixer.*

The central piece of a KAHL pelleting plant is the flat die press for compacting and shaping. The variety of KAHL presses ranges from the press for small-scale production (10 kg/h) to the high capacity presses (35 t/h). Thanks to the

exchange of experience with our customers and to constant technical optimizations, we can offer a variety of plants. Thus, we have also developed solutions for the pelleting of thermosensitive and pasty products or of products that

have to be processed by adding inert gas. The field of application of our pelleting plants ranges from the conditioning of raw materials for subsequent processing to the production of finished products.



◀ *Belt unit for drying or cooling or as a cooler/drier combination.*

available in different sizes and executions ranging from laboratory to high capacity roll grinders.

NEUHAUS NEOTEC is a member of the KAHL group.



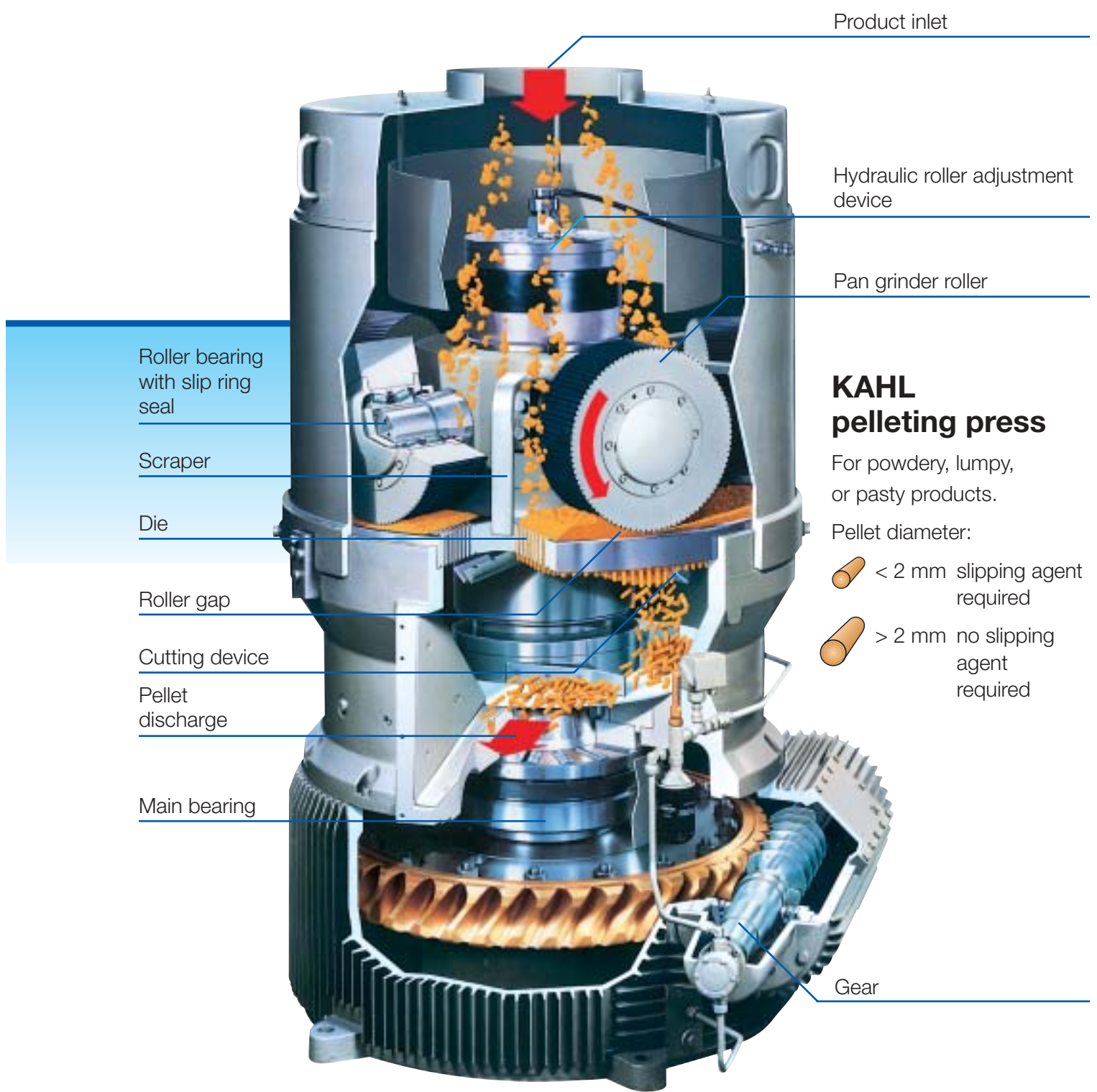
◀ *NEUHAUS NEOTEC Chemical roll grinder WMC in sectional design for almost dust-free crushing with a narrow particle size distribution.*



◀ *Cardan shafts with toothed belts and spur gear.*



For powdery,
lumpy,
or pasty
products



Product inlet

Hydraulic roller adjustment device

Pan grinder roller

Roller bearing with slip ring seal

Scraper

Die

Roller gap

Cutting device


Pellet discharge


Main bearing

**KAHL
pelleting press**

For powdery, lumpy,
or pasty products.

Pellet diameter:

 < 2 mm slipping agent required

 > 2 mm no slipping agent required

Gear

Proven process technologies due to product tests carried out in our pilot plant



The KAHL pilot plant at Reinbek is available for our customers for product testing and optimization. The plants are designed and built according to our customers' specific requirements taking into consideration the test results. Due to this procedure, our customers can rely on obtaining a plant that has been technically proven.

In the last few years more than 5000 products have been pelleted successfully in the KAHL pilot plant.

In the following some examples:

- Catalysts
- Tablets
- Vitamin C instant products
- Graphite
- Stearates
- Fertilizers
- Activated carbon
- Sludges
- RDF
- Vulcanization accelerators
- Pharmaceutical substances
- Pigments
- Plastics powder, waste
- Washing agent additives
- Talc
- etc.

Solutions for various sectors:



▲ Recycling plant



▲ Pelleting press for a chemical product



▲ Pelleting plant



▲ PUR foam conditioning plant for the recycling.



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